NIOSH recommends that health care facilities use safer medical devices to protect workers from needlestick and other sharps injuries. Since the passage of the Needlestick Safety and Prevention Act in 2000 and the subsequent revision of the OSHA Bloodborne Pathogen Standard, all health care facilities are required to use safer medical devices.

Safer Medical Device Implementation in Health Care Facilities

Sharing Lessons Learned

NIOSH has asked a small number of health care facilities to share their experiences on how they implemented safer medical devices in their settings. These facilities have agreed to describe how each step was accomplished, and also to discuss the barriers they encountered and how they were resolved, and most importantly, lessons learned.

DISCLAIMER: Provision of this report by NIOSH does not constitute endorsement of the views expressed or recommendation for the use of any commercial product, commodity or service mentioned. The opinions and conclusions expressed are those of the authors and not necessarily those of NIOSH. More reports on Safer Medical Device Implementation in Health Care Settings can be found at http://www.cdc.gov/niosh/topics/bbp/safer/

Phase 2 Report: Identify Priorities

Types of information used to determine priorities for implementing safer medical devices

To determine our priorities for implementing safer medical devices our organization used the following information (see Attachment 1):

- Accidental Parenteral Exposure report (blood/body fluid exposure report),
- Reviewed the scientific literature for risk of disease transmission associated with specific types of devices
- Reviewed our safer device list in our Bloodborne Pathogen Exposure Control Plan

1) The following is a general description of our Accidental Parenteral Exposure report:

Accidental Parenteral Exposure Report

Our organization uses the EPINET exposure surveillance software designed by the International Health Care Worker Safety Center at the University of Virginia to track and trend our parenteral and blood and body fluid exposures. The following data is tracked and trended:

- Number and type of exposures
- Hospital Accidental Parenteral Exposure Rate
- Job Categories
- Device causing injury
- Location where injury occurred
- How/when injury occurred
- Purpose for which sharp was used
- Source data
- Recipient data
- Follow-up testing for bloodborne pathogen exposures

The data is obtained from our accident reports, personal interviews, laboratory test results, and Accidental Parenteral Exposure flow sheets that are completed when an employee reports for exposure evaluation.

2) Employee Health and Infection Control reviewed the literature to determine risk of disease transmission from sharp devices. Information from professional organizations, Centers for Disease Control, National Institute of Occupational Safety and Health and continuing education courses were reviewed (see Attachment 2). The literature indicated the highest risk of disease transmission is from large bore needles that have been in a vein or artery.

Our organizations' needlestick data and the findings from our literature search were presented to the Engineering Controls Evaluation Committee. The committee determined our priorities for selecting and implementing safer medical devices would be based upon first, the potential risk of infection and second, on the volume of needlesticks associated with a particular device.

Our accidental parenteral exposure data analysis indicated the device most likely to cause an injury was disposable syringes used for subcutaneous and intramuscular injections. Although disposable syringes were causing the highest volume of needlesticks, the committee determined disposable syringes were a lower risk device for disease transmission because these devices were not used in a vein or artery and were rarely filled with blood. IV catheters were considered a high-risk device for disease transmission based upon review of the literature. IV catheters were selected as our highest priority device, even though the volume of needlesticks ranked third in our accidental parenteral exposure data.

Prior to beginning our sharp injury prevention team, the laboratory system established their own process for identification, selection, and evaluation of a safer phlebotomy device. The laboratory Quality Assurance Coordinator had identified the need for safer vacutainer needles. She reviewed the professional literature and in conjunction with the laboratory technical director attended a national laboratory conference to review available vacutainer safety needles. The work of the laboratory system on safer devices was reviewed and approved by our Engineering Controls Evaluation Committee. Future devices associated with laboratory use will be prioritized by the committee and follow the committee's established product review evaluation and implementation cycle.

Lessons learned during the process of identifying priorities and developing priorities for intervention.

- Many staff were not aware of the risk of disease transmission associated with specific devices and were only focused on the volume of needlesticks for specific devices. Having knowledgeable members about the risk of disease transmission associated with specific devices is helpful in educating the other members on the committee. The process improvement team that developed the structure for the Engineering Controls Evaluation Team (Sharp Injury Prevention Team) had reviewed the literature and our accidental parenteral exposure data before it was presented to the committee. These members were able to provide information and references for members to increase their knowledge and understanding of disease transmission.

- Ensure adequate agenda time for staff to discuss what criteria will be used to determine priorities for implementing safer medical devices.

Advice for starting the process and what to do differently

- Increase staff awareness as soon as possible regarding needlesticks and the risk of disease transmission associated with specific devices. Discuss your facility's accidental parenteral exposure data at annual safety training and or individual department inservices.

- Be proactive with any nursing unions and nursing labor committees to educate them on the risk of disease transmission associated with specific devices. Also, provide the unions with information about your sharp injury prevention team. They can be advocates for injury prevention and encourage the use of safer medical devices with their members.

- To increase organizational awareness of the risk of disease transmission from needlesticks and the work of the sharp injury prevention team, feature articles in your facility's newsletter and medical staff communications.

- Determine if other safer device committees exist within your institution prior to developing your sharps injury prevention team. If other committees exist, include representatives on the sharps injury prevention team and in the planning process of the formation of the team. We did include the laboratory Quality Assurance Coordinator on our sharps injury prevention team.

- The sharps injury prevention team should review the process used to identify, select, and evaluate safer devices that other safer device committees have evaluated. The sharps prevention team should provide oversight to previously established safer device committees and approve the devices selected, unless they have already been implemented. All future devices should be prioritized by the sharps injury prevention committee and follow the committee's established process review and implementation cycle.

Staff Hours

Staff Hours:

Type of Staff	Hours Spent on Phase 2
Management	1.5
Administrative	31
Front-line	2
Total	10.5

Other, non-labor items:

Item
1. Copying

Phase 2: Identify Priorities

Engineering Control (Safer Sharps) Product Evaluation Cycle

Process Step	A. Responsible
A safer sharp product evaluation can be initiated by one or more of the following factors: ⇗ Accidental Parenteral Exposure (APE) report indicates that a particular category of sharps device was involved in blood borne pathogen exposures. ⇗ Sharps devices currently in use are determined to have a potentially safer alternative product available. ⇗ New safer sharp device(s) have received final FDA approval for marketing. ⇗ Scientific literature review indicating risk of disease transmission associated with specific types of devices. ⇗ Medical literature reports that new, safer devices are available. ⇗ Departmental or specialty request	Infection Control Material Management Employee Health/Infection Control
⇗ Information and individual products for each of the products identified within a particular product category are presented to the Engineering Control Evaluation Committee (ECEC). ⇗ The Pre-Pilot product evaluation form is designed to measure respondents' clinical judgement of the safety, effectiveness, ease of use and suitability for use at Group Health of a particular device. ⇗ An ECEC Pre-Pilot Product Evaluation form is completed by each ECEC member for each product. ⇗ The Pre Pilot Product evaluation data is tabulated, summarized and presented to ECEC members. ⇗ Specific safer sharp products are chosen to be pilot tested	Material Management Manufacturers Representatives Engineering Controls Evaluation Committee (ECEC) members Material Management ECEC members evaluation
A front line clinical staff pilot study of each device selected for evaluation is designed and conducted as follows: ⇗ A questionnaire is developed for each end user to evaluate the safety, usability, advantages and disadvantages. General comments are also solicited. ⇗ Pilot test sites are chosen based on risk of exposure, volume of use, broad representation of clinical staff and geographical distribution of test locations. ⇗ Study results are analyzed and summarized and presented to ECEC members ⇗ A product is selected by ECEC members	ECEC staff
A recommendation about which safer sharp device should be adopted by Group Health is made to the Infection Control Committee (ICC)	ECEC Committee Chair/Staff
Infection Control Committee (ICC) approval is obtained ICC approval is communicated to Safety Committee	ICC Chair ECEC Chair
A product and site specific communication, training (inservice) implementation and evaluation process is designed and conducted.	ECEC Chair/ Project Manager
Existing products are swapped out for new safer sharp products when staff has been trained in their use.	Material Management Specialists

when staff has been trained in their use.	
Surveillance/monitoring of implementation is conducted 3-6 months post-swap out	Material Management Infection Control Employee Health

Literature References

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